ATTORNEY DOCKET NO. 052250-5019

### THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re A	Application of:	) )			# 14 upper
Joseph	n G. RADZIK	)			Exforms
Applie	cation No.: 09/965,983	)	Group Art	Unit: 3679	2/25/04
Filed:	28 September 2001	)	Examiner:	G. Collins	S
For:	FERROUS PIPE COUPLINGS AND PRELUBRICATED COUPLING GASKETS	) ) )			

MAIL STOP APPEAL BRIEF - PATENTS

Commissioner for Patents Washington, D.C. 20231

Sir:

RECEIVED
FEB 1 1 2004

**GROUP 3600** 

#### APPELLANT'S BRIEF UNDER 37 C.F.R. § 1.192

This brief is in furtherance of the Notice of Appeal, filed in the above-identified patent application on 03 September 2003. Appellant appeals the final rejection dated 31 January 2003. The fees required under 37 C.F.R. § 1.17(f), and any required petition for extension of time for filing this brief and fees therefor, are being filed concurrently herewith. This brief is being transmitted in triplicate.

02/06/2004 HVUONG1 00000106 500310 09965983

01 FC:1402 330.00 DA 02 FC:1253 950.00 DA

Page 2

#### 1. THE REAL PARTY IN INTEREST

The real party in interest is Central Sprinkler Corporation of Landsdale, Pennsylvania.

#### 2. RELATED APPEALS AND INTERFERENCES

Appellant is not aware of any other appeals or interferences that will directly affect, or be directly affected by, or have a bearing on the Board's decision in the appeal.

#### 3. STATUS OF THE CLAIMS

The status of the claims¹ is as follows:

Claims canceled: None

Claims pending: 1-23

Claims allowed: None

Claims rejected: 1-23

Claims on appeal: 1-23

RECEIVED

FEB 1 1 2004

**GROUP 3600** 

#### 4. STATUS OF AMENDMENTS

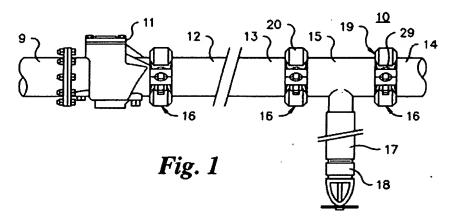
Appellant filed an Amendment and Request for Reconsideration Under 37 C.F.R. § 1.111 on 18 November 2002 in reply to the non-final Office Action dated 17 July 2001. The Amendment under 37 C.F.R. § 1.111 included amendments to claims 1, 5, 10, 13-15, and newly added claims 21-23. A Final Office Action was issued on 31 January 2003. The Final Office Action applied new grounds of rejection, and indicated that the arguments presented were not persuasive. No other amendment was filed thereafter.

<sup>&</sup>lt;sup>1</sup> See the attached Appendix for the claims presented for appeal.

#### 5. SUMMARY OF THE INVENTION

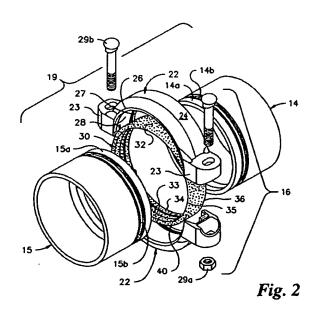
Appellant's invention is a ferrous pipe system; ferrous pipe coupling; and a pipecoupling gasket.

As shown in Figure 1 (reproduced below), a ferrous pipe system 10 can be provided to connect a fire protection sprinkler 18 with a potable water supply pipe 9, t-fitting 15, and pipes 12, 13, and 14 via pipe couplings 16. *See*, *U.S. Patent Application S.N. 09/965,983* (hereafter "the originally filed application") at paragraph 0015.



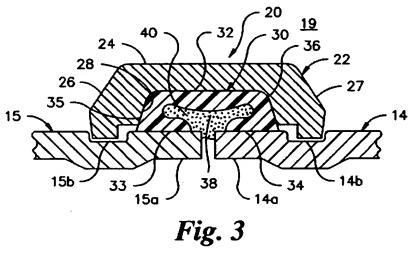
The coupling 16 includes a gasket 30 and collar 20, which can be of a ferrous material, e.g., of iron or steel. The collar 20 includes a split-ring type pipe coupling formed by plural identical ring segments 22, which can be secured together with threaded fasteners 29 to hold pipes 14 and 15 to the coupling 16. *Id* at paragraph 0016.

As shown in the exemplary embodiment of Figure 2 (reproduced below), the



gasket 30 can be constructed as a one-piece elastomeric member that provides, in conjunction with the split collar 20, a generally leak-tight coupling 16 for the pipes 14 and 15. *Id* at paragraph 0017.

As shown in a close-up cross-sectional view of Figure 3 (reproduced below), the gasket 30 includes a circumferential wall 32, and a pair of circumferential flanges 33 and 34 proximate the open ends 35 and 36 of the gasket 30. Each of the flanges 33 and 34 extends generally radially inwardly towards each other. Each of the flanges 32, 34 forms an inner circumferential side of the gasket 30. Each of the inner circumferential sides of the pair of flanges 32, 34 is provided with a coating of dry powder lubricant 40. *Id* at paragraph 0021.



Prior to appellant's invention, it was believed that only non-powder lubricants were used to lubricate gaskets for a ferrous type coupling that connects two ferrous pipes together. The non-powder lubricants were oil-based greases, as described, for example, in the background of the *originally filed application*, or an aqueous suspension of material such as graphite, soaps, or waxes, as described in PCT Publication WO 01/21993, which was made of record in the Information Disclosure Statement filed on 16 December 2002. The belief in the state of the art—at the time the invention was made—was that the non-powder lubricant would provide sufficient protection against scraping or cutting of the gasket during insertion of an open end of a ferrous pipe into

Page 5

the gasket during the installation of the pipes to the coupling. Where the non-powder lubricant is an oil-based grease, the grease is stored in a separate container and manually applied to the gasket prior to its installation in the ferrous coupling. *See the originally filed application* at paragraphs 0001 and 0021.

The non-powder lubricant, however, has many disadvantages: it can attract dirt and other contaminants during storage or installation; it can be messy during installation; and it can be removed by normal handling. Despite these disadvantages, it was believed, at the time the invention was made, that the non-powder lubricant was necessary to provide a sufficient level of protection for the gasket during insertion of steel pipe ends against the gasket. *See, Id.* 

Contrary to the accepted belief, appellant has discovered that a dry powder lubricant provides for a similar level of protection as compared to the non-powder lubricant with virtually none of the disadvantages of the non-powder lubricant. That is, the dry powder lubricant provides a suitable level of protection for the gasket during installation. In particular, the dry powder lubricant protects the inner circumferential surface of the flanges of the gasket from scraping or cutting during insertion of the sharp ends of the ferrous pipes into the coupling. Furthermore, the dry powder lubricant permits gasket to be pre-lubricated at the time of manufacturing of the coupling rather than during assembly of the coupling onto a piping system. *Id* at paragraph 0021.

Specifically, when the dry powder lubricant is provided at the inner circumferential surfaces of the flanges 32 and 34, shown in Figure 3, at least three distinct advantages are realized over the state of the art: (1) a reduction in the installation time of the coupling 16 to a pipe system because the lubricant 40 is preapplied during manufacturing of the coupling 16, (2) the elimination of a greasy or messy pipe assembly that attracts contaminants during installation or storage of the coupling 16; and (3) a lubricated gasket 30 whose lubricant cannot be removed by manual rubbing or handling. *Id*.

#### 6. ISSUES

Whether it would have been obvious for one of ordinary skill in the art, in a determination under 35 U.S.C. § 103, to modify Dole, i.e., a primary reference, that shows and describes a lubricated gasket without specifying the type of lubricant or where the lubricant is used on the gasket, to have a dry powder lubricant on the inner circumferential surface of the gasket that provides a sealing surface with a pipe based on Larsen, i.e., a secondary reference, that shows and describes a seal ring useable with various types of lubricant at two specific locations on the seal ring different than the inner circumferential surface of the seal ring that provides a sealing surface with a pipe.

#### 7. GROUPINGS OF CLAIMS

Claims 1-23 stand or fall together.

#### 8. ARGUMENTS

The Final Office Action concludes that the claimed invention as a whole is obvious, as set forth in the following grounds of rejection:

- (a) Claims 1, 4-6, 9-10, 16, and 19-23 stand finally rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 6,302,450 to Dole *et al* ("Dole") in view of U.S. Patent No. 4,230,157 to Larsen *et al* ("Larsen");
- (b) Claim 2, 3, 7, 8, 17, and 18 stand finally rejected under 35 U.S.C. § 103 as being unpatentable over Dole in view of Larsen, as applied to claims 1, 5, and 16 above, and further in view of U.S. Patent No. 5,070,597 to Holt *et al* ("Holt");
- (c) Claims 11 and 15 stand finally rejected under 35 U.S.C. § 103 as being unpatentable over Dole in view of Larsen, as applied to claim 10 above, and further in view of U.S. Patent No. 5,540,465 to Sisk;

- (d) Claim 12 stands finally rejected under 35 U.S.C. § 103 as being unpatentable over Dole in view of Larsen and Sisk, as applied to claim 11 above, and further in view of U.S. Patent No. 5,642,907 to Dole ("Dole '907"); and
- (e) Claims 13 and 14 stand finally rejected under 35 U.S.C. § 103 as being unpatentable over Dole in view of Larsen and Sisk, as applied to claim 11 above, and further in view of Holt.

#### I. No Suggestion, Teaching, or Reason to Combine References

Appellant respectfully asserts that none of the relied-upon references are appropriate to establish a *prima facie* case of obviousness of the claimed invention as a whole because one of ordinary skill in the art would not have been motivated to modify a gasket of Dole (i.e., a first type of component) with an unspecified lubricant to have a dry powder lubricant (i.e., a sub-component) of the seal ring of Larsen (i.e., a second type of component) at a location on the first type of component of Dole different from the locations for use of the sub-components as specified in Larsen.

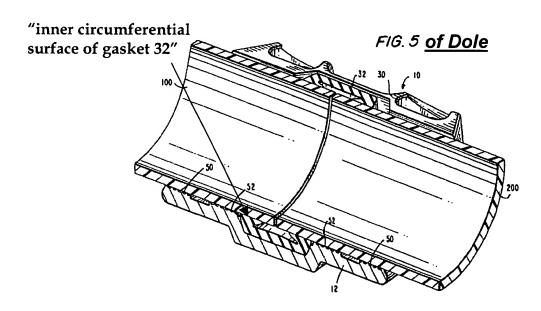
The Court of Appeal for the Federal Circuit has stated that in such situation where the first component of the primary reference is combined with a sub-component of the secondary reference that does not provide for a motivation or suggestion to combine the sub-component of the secondary reference with the first component of the primary reference, such combination of references to support a *prima facie* case of obviousness is improper. *See*, *Winner Int'l Royalty Corp.*, v. Ching-Rong Wang, 202 F.3d 1340; 53 U.S.P.Q.2D (BNA) 1580 (Fed. Cir. 2000).<sup>2</sup> Because the Final Office Action

<sup>&</sup>lt;sup>2</sup> In Winner Int'l, the Federal Circuit affirms the general principle that it is insufficient to establish obviousness based on the existence of separate elements of the invention in the prior art, absent some teaching or suggestion in the prior art to combine the elements. Id at 1349. In particular, the Federal Circuit confirmed the District Court's decision, which held that it was improper for the Board to render obvious a claimed invention to a product known commercially as "the Club®" in view of a combination of references, where the first reference showed and described a first type of steering wheel anti-theft device with a first type of locking mechanism (i.e., a first type of component with a first sub-component), and the second reference showed and described a second type of anti-theft device with a second type of locking mechanism (i.e., a second type of component with a second sub-component) without suggestion to combine the second sub-component with the first type of component.

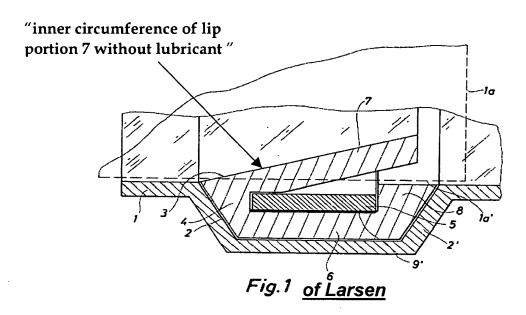
proposes, in an obviousness determination, to combine one of the sub-components (i.e., dry powder lubricant) of the secondary reference of Larsen with the first type of component (i.e., gasket) of the primary reference of Dole without providing for an adequate showing of motivation or suggestion to do so, the proposed combination of references fails to render obvious the claimed invention as a whole, as recited in claims 1, 5, 10, and 16.

Each of the independent claims 1, 5, 10, and 16 recites, *inter alia*, a gasket with at least one flange that forms a seal with a pipe. The gasket has an inner circumferential side with at least one flange provided with a coating of dry powder lubricant on at least the inner circumferential side of the gasket. These features are not taught or suggested by Dole in view of Larsen.

Dole shows and describes a segmented, high-strength pipe coupling 10 for connecting two pipes 100 and 200. As shown in Figure 5 of Dole (reproduced below), the pipe coupling 10 has a lubricated gasket 32, i.e., the first component, with respective inner circumferential surfaces (not labeled) in contact with the exterior surface of each pipe (Dole at col. 5: 22-36). Dole, however, fails to show or describe the type of lubricant or its location on the gasket 32, as acknowledged in the Final Office Action.



Larsen is relied upon by the Examiner for the allegation that a "[d]ry powder lubricant is a suitable lubricant to use between a gasket and a pipe." Larsen, however, does not teach or suggest placing a lubricant, whether a wet lubricant or dry powder type lubricant, on the inner circumference (as annotated in Figure 1 of Larsen) of lip portion 7 of seal ring 3, which forms a seal with the outer surface of pipe 1a.



In particular, Larsen provides, as shown in Figure 1 (reproduced above), a pipe end portion 1 with a circumferential groove 2 on which a sealing ring 3 is constrained within the groove 2 (Larsen at col. 5:26-48). The sealing ring 3 of Larsen has circumferential lip portions 6 and 7. Lubricant 9 or 9′, which can be a wet lubricant or dry powder lubricant, is provided as interchangeable sub-components of the seal ring 3 to facilitate movement of various lip portions 6, 7 with respect to each other as the sealing ring 3 is compressed in the groove 2 when a second pipe 1a is inserted into the first pipe 1. Larsen specifically requires the lubricant (i.e., sub-components) to be placed in two places: (1) between the lip portion 6 of the stiffening body (i.e., lubricant

Page 10

9'), and (2) between the lip portion 6 and the groove 2 (i.e., lubricant 9), as shown in Fig. 1 of Larsen. 3 See Larsen at col. 6: 7-21.

That is, the secondary reference to Larsen shows and describes a second component (i.e., the sealing ring 3) with one of two sub-components (i.e., the wet lubricant or dry powder lubricant) at two distinct locations on the second component. One of ordinary skill in the art, viewing the first component of the first reference (i.e., the gasket 32 of Dole) with knowledge of the second component and two sub-components of the secondary reference, (i.e., the sealing ring 1 with the wet and dry powder lubricants at two specific locations on the sealing ring 1 of Larsen), would not have been motivated —absent the benefit of appellant's *originally filed application*—to provide one of the particular sub-components of Larsen on an unspecified location (by either Dole or Larsen) on the first component of Dole.

Because of the specificity of the locations on which a dry powder lubricant is to be used in Larsen, Larsen fails to provide any suggestion, motivation, or reason to combine features of Larsen with Dole so as to render the claimed invention as a whole obvious. In the absence of such suggestion or motivation to combine, the grounds of rejection under 35 U.S.C. § 103, as applied in the Final Office Action, are inappropriate.

# II. No "Clear and Particular" Showing of Objective Evidence in the Final Office Action to Support the Conclusion of Obviousness

As held by the Federal Circuit, a finding or showing of the evidence in support of an obviousness determination under 35 U.S. C. § 103 must be "clear and particular." *See, In re Dembiczak,* 175 F3d 994, 999, USPQ2d 1614, 1617 (Fed. Cir. 1999). Broad conclusionary statements regarding the teaching of multiple references, standing alone, are not "evidence" to support the showing of obviousness. *Id.* 

<sup>&</sup>lt;sup>3</sup> Even though dry powder lubricant is recognized as suitable for use in the specific application of the pipe joint of Larsen, none of the relied-upon prior art shows or describes the use of a dry powder lubricant on the radially innermost surface of the member that forms a seal with a pipe.

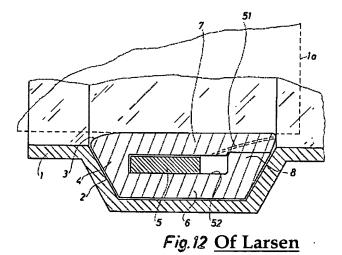
Page 11

The Final Office Action concludes that it would be "common practice in the art to lubricate the entire circumference of a gasket" of Dole with "dry powder lubricant" based on Larsen. This conclusion, however, is unsupported by objective evidence that is "clear and particular." That is, the Final Office Action fails to articulate how this conclusion was reached as a matter of "common practice" so as to render the claimed invention as a whole obvious. Consequently, appellant respectfully submits that the burden elucidated by the Federal Circuit has not been met in the Final Office Action to provide for a "clear and particular" showing of objective evidence to place dry powder lubricant on the inner circumferential surfaces of the gasket 32 of Dole (i.e., at the flange surfaces of the gasket 32 of Dole) based on the teaching of Larsen. See In re Dembiczak at 999.

Notwithstanding the lack of a clear and particular showing of objective evidence to combine Dole in view of Larsen, appellant further submits that one of ordinary skill in the art would not have utilized the teaching of Larsen in the gasket of Dole because of the distinct differences between the Dole and Larsen. In particular, Dole describes and shows in Figure 5 (reproduced above) a high-strength, segmented coupling 12, 14 with teeth 50, 52 that hold two pipes 100, 200 in a confronting arrangement together in the coupling 10. A gasket 32 provides a seal between the pipes 100, 200 and between the coupling 10 and the pipes 100, 200 of Dole. See Dole at col. 5: 19 and 29-31. The flanges of the gasket 30 of Dole contact the pipes 100,200, respectively, to provide for a seal therebetween. Larsen, on the other hand, shows and describes a sealing ring 3 with a stiffening ring 5 to hold and seal two pipes in a nested configuration (pipes 1 and 1a). The lip portion 7 of sealing ring 3 of Larsen is compressed by the exterior surface of the second pipe 1a so that a portion of the lip portion 7 contacts a portion of a bead 8, as shown in Figure 12 (reproduced below). Thus, Larsen shows and describes a seal that has a portion which overlaps and contacts a bead portion of the seal once installed, whereas Dole shows and describes a seal that has a lip portion which does not contact any other portion or section of the gasket.

Because the sealing ring 3 of Larsen is configured differently than the gasket 32 of Dole, there is no suggestion in the Dole or Larsen references for a combination of the disparate elements picked from those available in these references, or any indication in these references of any basis for picking the particular elements in an attempt to render the claimed invention as a whole obvious. In the absence of objective evidence to explain why one of ordinary skill would combine Dole in view of Larsen, and in view of the differences noted above between Dole and Larsen, appellant respectfully asserts that Dole and Larsen fail to teach or suggest the claimed invention as a whole.

Moreover, even if one of ordinary skill were to pick and choose features based on various references, such selection of features fails to teach or suggest all of the claimed features. That is, even when elements of the references are selected from the relied-upon prior art, none of the relied-upon prior art show or describe a dry powder lubricant on the radially innermost surface of the member that forms a seal with a pipe.



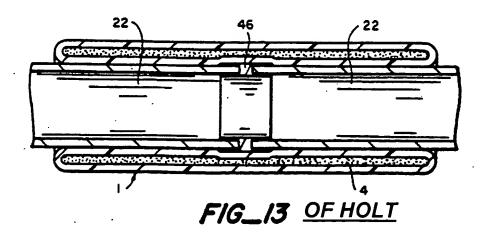
<sup>&</sup>lt;sup>4</sup> It is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art. *In re Wesslau*, 353 F2d 238, 241, 147 USPQ 391, 393 (CCPA 1965); *See also In re Mercer*, 515 F2d 1161, 1165-66, 185 USPQ 774, 778 (CCPA 1975).

<sup>&</sup>lt;sup>5</sup> As noted at MPEP § 2143.03 (8th Ed., Rev. 1, Feb. 2003), <u>all</u> of the claimed features must be taught or suggested in the relied-upon prior art. Where all of the claimed features are not taught or suggested by relied-upon prior art, then a *prima facie* case of obviousness has not been established. *In re Royka*, 490 F2d 981, 180 USPQ 580 (CCPA 1974).

Accordingly, claims 1, 5, 10, and 16 are patentable over Dole in view of Larsen for at least this reason.

## III. <u>The Secondary References to Holt, Sisk, and Dole '907 Fail To Cure the</u> Deficiencies of Dole in view of Larsen

None of the prior art references to Holt, Sisk, or Dole '907 cures the deficiencies in the proposed combination of Dole in view of Larsen. Each of the relied upon references fails to show or describe a coating of dry powder lubricant, at the time the invention was made, on at least the inner circumferential surface of the gasket so as to cure the above-noted deficiencies of Dole in view of Larsen. In particular, Holt shows and describes in Figure 13 (reproduced below), an elastomeric double-walled tube 1 to connect two pipes 22 together. Holt states that the double walled tube 1 is provided with friction reducing means 4 disposed between the walls. See Holt at col. 8: 57-66. The friction reducing means 4 can be of a solid, semi-solid, or liquid lubricant. *Id* at col. 9: 26-28, col. 12: 1-18, 65-68, and col. 13: 3-15. The friction reducing means 4, however, is encapsulated entirely within the double-walled tube 1. That is, the double walled tube 1 of Holt fails to show or describe dry powder lubricant at the interface, i.e., sealing surface between the double walled tube 1 and the pipes 22. Thus, the tube 1 of Holt is similar to the sealing ring 3 of Larsen in that both Holt and Larsen fail to show or describe that any lubricant is used on the radially innermost surface in engagement with a pipe to form a seal. Therefore, Holt fails to cure the deficiencies of Dole and Larsen.



Page 14

In relation to the teaching of a dry powder lubricant encapsulated within the tube 1 of Holt, the Examiner cites In re Keller, 642 F2d 413, 208 USPQ 871 (CCPA1981) for the proposition that the test for obviousness is what the combined teachings of the reference would have suggested to one of ordinary skill, and therefore, one of ordinary skill would recognize organic starch as a lubricant for the proposed combination of Dole and Larsen. In contrast to the proposition of In re Keller, the Examiner's conclusion fails to point out how the references suggest, teach, or motivate one of ordinary skill to render the claimed invention obvious, without the benefit of appellant's originally filed application. See e.g., Interconnect Planning Corp. v. Feil, 774 F2d 1132, 1138, 227 USPQ 543, 547 (Fed. Cir. 1985) (Stating that "the invention must be viewed not with the blueprint drawn by the inventor, but in the state of the art that existed at the time.). In this case, Holt fails to provide a suggestion, teaching, or motivation for one of ordinary skill in the art to utilize a dry powder lubricant on a sealing surface between a member and a pipe because Holt isolates the wet lubricant or dry powder lubricant from contact with any other member (except itself) by encapsulating the lubricant 4 within a continuous double walled tube 1. Hence, Holt actually teaches away from the claimed invention as a whole, which requires contact between the gasket, dry powder lubricant, and pipes. In view of the teachings of Holt, one of ordinary skill would not have been motivated, at the time the invention was made, to modify Dole and Larsen based on Holt to provide a coating of dry powder lubricant at a specific location on a gasket. Thus, Dole, Larsen, and Holt fail to support the Examiner's conclusion. Accordingly, claims 2, 3, 7, 8, 13, 14, 17, and 18 are patentable over Dole in view of Larsen and Holt.

Sisk shows and describes a pipe coupler 30 with clamping arms 32 and 34 for a gasket 150. See Sisk at col. 4: 54-64 and col. 5: 9-21. Sisk, however, fails to show or describe any lubricant anywhere on the gasket 150. Consequently, Sisk fails to teach or suggest a coating of dry powder lubricant, at the time the invention was made, on at least the inner circumferential surface of the gasket 150 such that Sisk would cure the

Page 15

deficiencies of Dole in view of Larsen. Accordingly, claims 11 and 15 are patentable over Dole in view of Larsen and Sisk.

Dole '907 shows and describes an end fitting 10 with an elastomeric seal 18. *See* Dole '907 at col. 4: 24-31. Dole '907, however, fails to show or describe any type of lubricant anywhere on the seal 18, much less a dry powder type lubricant. Consequently, Dole '907 fails to teach or suggest a coating of dry powder lubricant, at the time the invention was made, on at least the inner circumferential surface of the seal 18 such that Dole '907 would cure the deficiencies of Dole in view of Larsen and Sisk. Accordingly, claim 12 is patentable over Dole in view of Larsen, Sisk, and Dole '907.

For the reasons discussed above, appellant respectfully asserts that Dole, Larsen, Holt, Sisk, or Dole '907, whether considered alone or in combination, fails to teach or suggest the claimed invention as a whole, as recited in claims 1-23. Accordingly, claims 1-23 are patentable over the relied-upon prior art.

Page 16

#### 9. CONCLUSION

Appellant respectfully submits that Dole, Larsen, Holt, Sisk, or Dole '907, whether considered individually or in combination, fails to teach or suggest the combination of features recited in independent claims 1, 5, 10, and 16. Moreover, appellant respectfully submits that claims 2-4, 6-9, 11-15, and 17-23, which depend either directly or indirectly from independent claims 1, 5, 10, and 16, are also patentable inasmuch as they recite the same combinations of allowable features, as well as reciting additional features that further distinguish over the applied prior art.

In view of the foregoing, appellant respectfully requests that the Board of Patent Appeals and Interferences reverse the Final Office Action and allow claims 1-23.

If there are any other fees due in connection with the filing of this Appeal Brief, please charge the fees to our Deposit Account No. 50-0310. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit Account No. 50-0310.

Respectfully submitted,

**MORGAN, LEWIS & BOCKIUS LLP** 

Dated: February 3, 2004

By: <u>un U</u>
David W. Laub

Reg. No. 38,708

Customer No. 009629 MORGAN LEWIS & BOCKIUS LLP 1111 Pennsylvania Ave., NW Washington, D.C. 20036 (202) 739-5282

### <u>APPENDIX</u>

#### **CLAIMS UNDER APPEAL**

1. A lubricated ferrous pipe coupling gasket comprising:

a generally tubular, one-piece, elastomeric member with first and second axial open ends, the member being formed by a circumferential wall and at least a pair of circumferential flanges, each flange extending at least generally radially inwardly at a separate one of the first and second axial open ends of the member, the circumferential wall and the pair of circumferential flanges forming at least one circumferential channel on an inner circumferential side of the member; and

a coating of dry powder lubricant on at least the inner circumferential side of the pair of flanges of the member.

- 2. The gasket of claim 1 wherein the lubricant comprises an organic starch powder.
- 3. The gasket of claim 1 wherein the lubricant consists essentially of organic starch powder.
- 4. The gasket of claim 1 wherein the dry powder contains as a primary component, one of cornstarch, rice starch, potato starch, talc and magnesium silicate hydroxide.
- 5. A ferrous pipe coupling comprising:

a ferrous collar having an outer, axially extending, axially split circumferential wall with at least one pair of adjoining circumferential ends at the split;

at least one fastener releasably securing together the at least one pair of adjoining circumferential ends of the collar;

Page 18

a gasket in the form of a generally tubular, one-piece elastomeric member

positioned in the collar and having an exposed inner circumferential side exposed in the

collar, the inner circumferential side having at least one flange that forms a seal with a

pipe; and

a coating of dry powder lubricant on at least the exposed, inner circumferential

side of the elastomeric member.

6. The ferrous pipe coupling of claim 5 wherein the ferrous collar includes a pair of

at least generally radially inwardly extending circumferential flanges, each flange being

located at a separate axial end of the circumferential wall, the pair of flanges and the

circumferential wall forming a circumferential channel on an inner circumferential side

of the collar and wherein the gasket is positioned in the channel.

7. The coupling of claim 5 wherein the lubricant comprises an organic starch

powder.

8. The coupling of claim 5 wherein the lubricant consists essentially of organic

starch powder.

9. The coupling of claim 5 wherein the dry powder contains as a primary

component, one of cornstarch, rice starch, potato starch, talc and magnesium silicate

hydroxide.

10. A ferrous pipe system comprising:

a plurality of ferrous piping components; and

at least one ferrous pipe coupling mechanically and fluidly joining together ends

of a pair of the piping components at a joint;

Page 19

the ferrous pipe coupling including a ferrous collar having an outer, axially extending and axially split, circumferential wall and at least one pair of adjoining circumferential ends at the split;

the ferrous pipe coupling further including a gasket in the form of a generally tubular, one-piece elastomeric member having an inner circumferential side, the inner circumferential side including at least one flange sealingly mounted on the ends of the pair of piping components and surrounded by the collar;

the ferrous pipe coupling further including a coating of dry powder lubricant at least between the at least one flange of the inner circumferential side of the gasket and the ends of the pair of piping components; and

the ferrous pipe coupling further including at least one fastener releasably securing together a pair of adjoining, circumferential ends of the collar so as to compress the gasket and the collar on the ends of the pair of piping components.

- 11. The ferrous piping system of claim 10 further comprising a one-way valve coupled with the plurality of piping components a potable water supply, the valve being arranged to supply water from the potable water supply to the plurality of piping components.
- 12. A water distribution, ferrous piping system of claim 11, wherein one of the plurality of piping components is a fitting and further comprising a fire sprinkler coupled with the fitting to be supplied with water by the potable water source through the piping system.
- 13. The coupling of claim 11 wherein the dry powder lubricant comprises an organic starch powder.

Page 20

14. The coupling of claim 11 wherein the dry powder lubricant consists essentially of organic starch powder.

- 15. The coupling of claim 11 wherein the dry powder lubricant contains as a primary component, one of cornstarch, rice starch, potato starch, talc and magnesium silicate hydroxide.
- 16. In a ferrous pipe coupling including a generally tubular, one-piece, elastomeric gasket having at least one flange, a ferrous collar surrounding the gasket, the collar including at least one axial split defining a pair of adjoining circumferential ends, and a fastener releasably securing together the adjoining circumferential ends of the collar, the improvement including a coating of dry powder lubricant on at least an inner circumferential side of the at least one flange of the gasket that forms a seal with a ferrous pipe.
- 17. The improvement of claim 16 wherein the dry powder lubricant comprises an organic starch powder.
- 18. The improvement of claim 16 wherein the dry powder lubricant consists essentially of organic starch powder.
- 19. The improvement of claim 16 wherein the dry powder lubricant contains as a primary component, one of cornstarch, rice starch, potato starch, talc and magnesium silicate hydroxide.
- 20. The improvement of claim 16 wherein the dry powder lubricant coats all circumferential surfaces of the gasket.

Page 21

21. The ferrous pipe coupling of claim 5, wherein the gasket comprises a pair of circumferential flanges formed on the exposed inner circumferential side of the gasket.

- 22. The ferrous pipe system of claim 10, wherein the gasket comprises a pair of circumferential flanges formed on the inner circumferential side of the gasket.
- 23. The improvement of claim 20, wherein the dry powder lubricant coats a pair of flanges formed on the circumferential surface of the gasket.